INFORMATION TECHNOLOGY ANALYST ~~TRAINEE~~/I/II –
Networking
(Deep Class)
NETWORK DESIGN AND ADMINISTRATION

DEFINITION

Under general supervision or direction, performs a ~~variety~~diverse range of professional, ~~technical and~~ analytical duties in the design, engineering, enhancement, operation ~~of enterprise network,~~ and maintenance of County information ~~security administration, design~~technology networks and related systems, including network hardware and~~/or engineering~~ related applications; analyzes customer and enterprise infrastructure network and/or information security systems requirements; develops and maintains department and enterprise infrastructure network architectures.~~ ~~; and performs related duties as assigned.
~~DISTINGUISHING~~
SUPERVISION RECEIVED AND EXERCISED

Receives general supervision or direction from assigned supervisory or management personnel. Exercises no direct supervision over staff but may lead the work of staff on assigned projects.

CLASS CHARACTERISTICS

Information Technology Analyst I – Network Design and Administration: This is ~~a multi~~the entry-level ~~deep~~classification in the Information Technology Analyst – Network Design and Administration class ~~in which~~ series. Initially under general supervision, incumbents ~~may receive training as an Information Technology Analyst Trainee, or may be assigned to one of two levels depending on~~ learn the operational aspects of the County's information technology architecture as well as its core hardware and software platforms. As experience ~~and proficiency gained in~~ is gained, assignments become more varied, complex, and difficult, and the degree of supervision and frequent review of work lessens as an incumbent demonstrates skill to perform the work independently. Positions at this ~~specialty classification. In the Information Technology Analyst Trainee class, incumbents receive training on the day to day tasks associated with this~~ level usually perform most of the duties required of the positions at the II-level, but are not expected to function at the same skill level and usually exercise less independent discretion and judgment in matters related to work procedures and methods. Work is usually supervised while in progress and fits an established structure or pattern. Exceptions or changes in procedures are explained in detail as they arise.

Information Technology Analyst II – Network Design and Administration: This is the fully qualified journey-level classification ~~series. At the Information Technology Analyst I level, incumbents, initially under close supervision, perform the more routine duties of the class.~~ in the Information Technology Analyst ~~II is the journey level in the class series; incumbents are technically proficient in executing assigned duties. Incumbents in~~ – Network Design and Administration class series where incumbents perform the full range of network design, engineering, enhancement, operation, and maintenance. Positions at this level are distinguished from the I-level by the performance of the full range of duties, working independently, and exercising judgment and initiative. Positions at this level receive only occasional instruction or assistance as new or unusual situations arise and are fully aware of the operating procedures and policies of the work unit.

This class is further distinguished from the Information Technology Analyst ~~II classification may be~~ III– Network Design and Administration in that the latter is responsible for more complex and higher-level

network design and administration functions and provides lead oversight to assigned ~~as leader of a project team involving technically difficult and complex work on multiple platforms, systems and/or networks. Lead direction may include the classifications of~~ staff.

Positions in the Information Technology Analyst ~~Trainee/I/II. The Information Technology Analyst~~ Network Design and Administration class series are flexibly staffed and positions at the II-level are normally filled by advancement from the I-level after gaining the knowledge, skill, and experience which meets the qualifications for the II ~~level is distinguished from Sr. Information Technology Analyst in that the latter performs the more difficult, complex and specialized~~ level, and after demonstrating the ability to perform the work of the higher-level class.

EXAMPLES OF TYPICAL JOB FUNCTIONS (Illustrative Only)

➢ Performs a diverse range of professional, ~~technical and~~ analytical duties in the design, engineering, enhancement, operation, and maintenance of County information technology networks and related systems, including network hardware and related applications.

~~**EXAMPLES OF DUTIES** (Illustrative Only)~~

~~**NOTE:** The level and scope of the job duties listed below are assigned as defined under Distinguishing Characteristics.~~

➢ Plans, determines requirements, designs, builds, tests, implements, maintains, and enhances complex enterprise infrastructure network and/or security systems.
  - ~~Integrates information systems for operability over multiple platforms~~ Participates in the configuration, implementation, and ~~technologies.~~
  - ~~Acts as liaison between vendors, technical support and departments to resolve system,~~ troubleshooting of network ~~or telecommunication problems;~~ components and security software, and coordinates ~~and implements corrective measures.~~
➢ /collaborates with other information technology staff in the integration of network projects with other systems. ~~Models changes against hardware and software configurations to optimize the utilization of resources.~~
➢ Determines network needs and develops plans and proposals to meet the needs of customers.
➢ Researches to determine feasibility, and advises and recommends appropriate uses of network and/or security technologies.
➢ Models changes against hardware and software configurations to optimize the utilization of resources.
➢ Acts as a liaison between vendors, technical support, and departments to resolve system, network, or telecommunication problems; coordinates and implements corrective measures.
➢ Develops and implements comprehensive test plans to ensure that network information technology components are tested and debugged.
➢ Monitors and enforces security policies and procedures.
➢ Installs third-party network and security software/hardware/appliances; modifies software as necessary to meet specific customer requirements; installs vendor supplied maintenance and enhancements.
➢ Resolves problems related to ~~Network~~network application software, operating ~~system~~systems, hardware, router and switches, printing, and networks.
➢ Provides assistance and training for County staff as needed.
➢ Monitors and collects data on department and/or enterprise infrastructure network system performance.
➢ Determines and adjusts network performance thresholds for system resources.
➢ Participates in projects related to assigned specialty field ~~.~~; may function as a leader of a small project team; may provide leadership and mentoring to other Information Technologies staff regarding areas of expertise.
  - ~~May function as a leader of a project team assigned to projects covering multiple platforms and/or specialty fields; provides~~

leadership and mentoring to other Information Technology staff assigned to the project team.

⮞ Plans, coordinates and oversees project team activities; identifies deliverables and establishes schedules and time lines; identifies and allocates project resources.

➢ Provides May provide data for justification of unit budget in relation to assigned projectswork assignments.

⮞ May provide input into selection decisions, performance evaluations and disciplinary matters related to assigned project teams.

➢ Attendance and punctuality that is observant of scheduled hours on a regular basis.

➢ Performs otherrelated duties as assigned.

QUALIFICATIONS

NOTE: The level and scope of the knowledge and skills listed below are related to job duties as defined under Distinguishing Characteristics.

General *Some knowledge and abilities may be gained by employees at the entry (I) level while in a learning capacity.*

Knowledge of:

➢ Principles of enterprise infrastructure and techniques of network topologies and architectures and methodologies.

• Principles of computer information security and privacy practices.

• Design, installation and maintenance of enterprise infrastructureInstalling, configuring, modifying, and maintaining network and/or security systems.

➢ Network and PC operating systems, network and security applications, and remote access appliances and/or software.

➢ Principles and practices of technical problem solving.

➢ Methods of long-term technology assessment and deployment.

• Principles, practices and techniques of providing customer service.

➢ Principles and practices of producing effective project and technical documentation.

➢ Restart and recovery concepts.

• Basic supervisory practices and principles.

• Team dynamics and team building.

Specific Knowledge:

• Logical and physical network design, implementation, testing, and maintenance.

➢ Network and/or security hardware and software vendors, products and pricing structures.

➢ Data communication and network concepts and principles.

➢ Various networkingNetworking services such as NTP, RADIUS, and TACACS, and protocols such as DNS, DHCP, WINS, etcRIP, OSPF, and EIGRP.

➢ Internet and Intranetintranet architecture and vendor offerings.

➢ Planning and implementation of network hardware/software installation/upgrades.

➢ Network security policies, techniques, and procedures.

➢ Network and/or security documentation, configuration, maintenance, and diagnostic procedures and techniques.

➢ Network, server, LAN/WAN, router and switch configuration and administration.

➢ Use of network diagnostic systems and tools.

➢ Conducting comprehensiveMethods and techniques of designing and coordinating information technology testing processes.

➢ Network forensics as neededtools and techniques.

➢ Diagnosing and resolving problems with Development of utility programs to enhance network performance.

➢ Principles and practices of technical problem solving.

➢ devicesPrinciples, processes, and interface systems.techniques of technology project management.

➢ Methods of long-term technology assessment and deployment.

➢ Industry best practices of information technology management and control.

➢ Restart and recovery concepts.
  • ~~Installing, configuring, modifying and maintaining network operating systems, network and security applications and remote access appliances and/or software.~~

~~Skill In:~~
➢ ~~Recognizing network problems,~~ Methods and techniques of conducting research.
➢ Principles and techniques of leadership and working with groups and fostering effective team interaction to ensure teamwork is conducted smoothly.
➢ Methods and techniques of developing and delivering training.
➢ Principles and practices of producing effective project and technical documentation.
➢ Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors, and County staff.
➢ The structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.
➢ Modern equipment and communication tools used for business functions and program, project, and task coordination.
➢ Computers and software programs (e.g., Microsoft software packages) to conduct, compile, and/or generate documentation.

Ability to:

➢ Recognize network problems, develop recommendations and solutions, and ~~managing~~manage corrections.
  • ~~Making technical oral presentations to technical and non-technical audiences.~~
  • ~~Coordinating activities with vendors, clients and staff.~~
➢ ~~Understanding complex~~Understand enterprise infrastructure ~~network and/or~~ security systems and issues.
➢ ~~Integrating~~Integrate department and/or enterprise networked and/or security systems.
➢ ~~Interpreting, applying rules and explaining~~ Enforce network security policies and procedures.
➢ ~~Using~~Develop and implement network testing models.
➢ Evaluate, install, test, and implement new network architectures.
➢ Coordinate activities with vendors, clients, and staff.
➢ Collaborate with colleagues in developing and documenting process work flows, specifications, and models.
➢ Make technical oral presentations to technical and non-technical audiences.
➢ Use sound independent judgment within established guidelines.
➢ ~~Preparing~~Demonstrate strong and effective customer support skills.
➢ Prepare clear and concise reports, correspondence, documentation, and other written ~~materials~~material.
➢ ~~Communicating effectively,~~Train others in work procedures.
➢ Communicate clearly and concisely, both orally and in writing, ~~with Information Technologies management, professional and support staff, department system users~~using appropriate English grammar and ~~vendors.~~ syntax.
➢ ~~Establishing and maintaining~~Understand, interpret, and apply all pertinent laws, codes, regulations, policies and procedures, and standards relevant to work performed.
➢ Use tact, initiative, prudence, and independent judgment within general policy, procedural, and legal guidelines.
➢ Establish, maintain, and foster positive and effective working relationships with those contacted in the course of ~~the~~ work.
  • ~~Planning, assigning and reviewing the work of others.~~
  • ~~Training others in work procedures.~~
  • ~~Promoting and maintaining a team environment.~~

Education and Experience:
Any combination of the required experience, education, and training that would provide the essential knowledge, skills, and abilities is qualifying.

Information Technology Analyst ~~Trainee:~~I – Network Design and Administration:

~~EITHER (1)~~
Equivalent to ~~graduation~~a bachelor's degree from ~~a~~ an accredited four--year college or university with major coursework in ~~Computer Science, MIS, Business Administration, or~~ information technology, computer science, or a closely related field ~~with an emphasis in enterprise infrastructure network administration, design~~. Possession of one or more approved nationally recognized industry specific technology certifications may be substituted for some or ~~engineering.~~ all of the education.

~~OR (2)   Equivalent to an Associate of Arts degree in Computer Science and completion of a certificate program in Computer Science with emphasis in enterprise infrastructure network administration, design or engineering.~~

~~OR (3)   One year of experience equivalent to the County's classification of Senior Information Technology Technician.~~

~~OR (4)   Two years of experience equivalent to the County's classification of Information Technology Technician II.~~

Information Technology Analyst ~~I~~II – Network Design and Administration:

~~EITHER (1)~~ Equivalent to ~~graduation~~a bachelor's degree from ~~a~~an accredited four-year college or university with major coursework in ~~Computer Science, MIS, Business Administration~~information technology, computer science, or a closely related field ~~with emphasis in enterprise infrastructure network administration, design~~; possession of one or more approved nationally recognized industry specific technology certifications may be substituted for some or ~~engineering~~all of the education; and
~~AND   One year paid~~

EITHER

Three (3) years of professional experience providing analytical support for enterprise or departmental network and security systems;

OR

Two (2) years of professional experience ~~working in Information Technology.~~

~~OR (2)   One year of experience~~at a level equivalent to the County's class of Information Technology Analyst ~~Trainee-Networking.~~

~~OR (3)   Completion of a certificate program in Computer Science with emphasis in enterprise infrastructure network administration, design or engineering and two years experience working in this specialty.~~

~~OR (4)   One year of experience equivalent to the County's class of Supervising Information Technology Technician~~
~~AND   Completion of a certificate program that is equivalent to the major course work for an Associate of Arts degree in computer science, or completion of a certificate program with emphasis in enterprise infrastructure network administration, design or engineering.~~

~~Information Technology Analyst II:~~

~~EITHER (1) Equivalent to graduation from a four-year college or university with major coursework in Computer Science, MIS, Business~~I – Network Design and Administration~~, or a closely related field with emphasis in enterprise infrastructure network administration, design or engineering,~~ .

~~AND: (a) Three years experience working in the field of enterprise infrastructure network administration, design or engineering within an enterprise environment.~~

~~OR (b) two years experience equivalent to the County's class of Information Technology Analyst I - Networking.~~

~~OR (2) Completion of a certificate program in Computer Science with emphasis in enterprise infrastructure network administration, design or engineering and four years experience working in enterprise infrastructure network administration, design or engineering or a similar field in an enterprise information environment.~~

~~NOTE: The level at which initial appointments to the classes of Information Technology Analyst Trainee/I/II are made, advancement from the lower to higher levels of this class series, and designation as a project team leader are based upon the duties assigned and are at the discretion of the appointing authority, providing the minimum qualifications are met.~~

Licenses and Certifications:

➢ Possession of, or ability to obtain and maintain, a valid California Driver's License by time of appointment and a satisfactory driving record.

PHYSICAL DEMANDS

Must possess mobility to work in an office setting; use standard office equipment, including a computer; some positions may be required to operate a motor vehicle; vision to read printed materials and a computer screen; and hearing and speech to communicate in person and over the telephone. Standing in and walking between work areas is frequently required. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment. Positions in this classification frequently bend, stoop, kneel, and reach to perform assigned duties, as well as push and pull drawers open and closed to retrieve and file information. Employees must possess the ability to lift, carry, push, and pull materials and objects up to 25 pounds. Reasonable accommodations will be made for individuals on a case-by-case basis.

ENVIRONMENTAL CONDITIONS

Employees work in an office environment with loud to moderate noise levels, controlled temperature conditions, and no direct exposure to hazardous physical substances. Employees may interact with upset staff and/or public and private representatives in interpreting and enforcing departmental policies and procedures.

WORKING CONDITIONS

Must be willing to work after hours, weekends, and holidays as needed. Must be able to pass a thorough background investigation.